

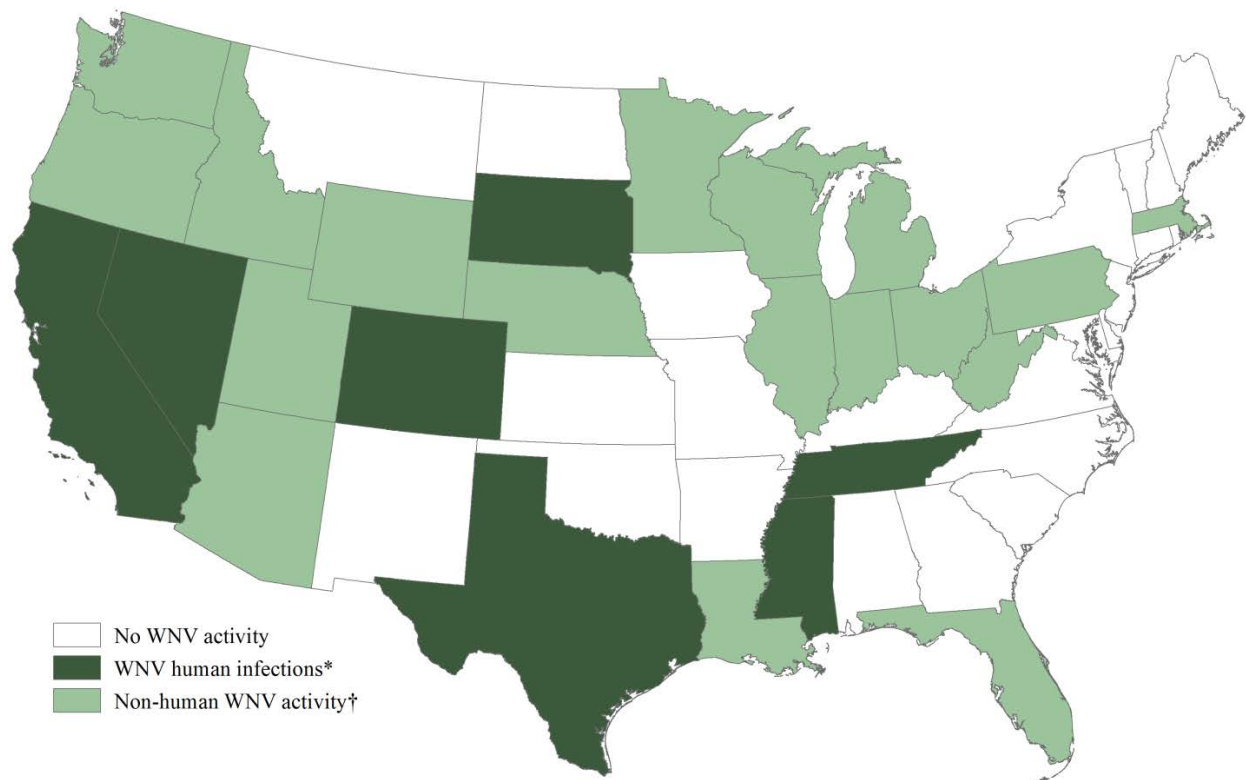
West Nile virus and other arboviral activity -- United States, 2013
Provisional data reported to ArboNET
Tuesday, July 9, 2013

This update from the CDC Arboviral Diseases Branch includes provisional data reported to ArboNET for **January 1 – July 9, 2013** for nationally notifiable arboviruses other than dengue. Additional resources for ArboNET and arboviral diseases are provided on page 9.

West Nile virus (WNV) activity in 2013

As of July 9th, 93 counties in 25 states and the District of Columbia have reported WNV activity to ArboNET for 2013, including seven states with reported WNV human infections (i.e., disease cases or viremic blood donors) and 18 additional states with reported WNV activity in non-human species only (i.e., veterinary cases, mosquito pools, dead birds, or sentinel animals) [Figure 1].

Figure 1. West Nile virus (WNV) activity reported to ArboNET, by state — United States, 2013 (as of July 9, 2013)



*WNV human disease cases or presumptive viremic blood donors. Presumptive viremic blood donors have a positive screening test which has not necessarily been confirmed.

†WNV veterinary disease cases, or infections in mosquitoes, birds, or sentinel animals

Reported WNV disease cases

To date, 14 WNV disease cases (five neuroinvasive and nine non-neuroinvasive) have been reported from seven states [Table 1]. Additional demographic and clinical characteristics of reported cases are provided on page 8 [Table 5].

Presumptive viremic donors (PVDs)

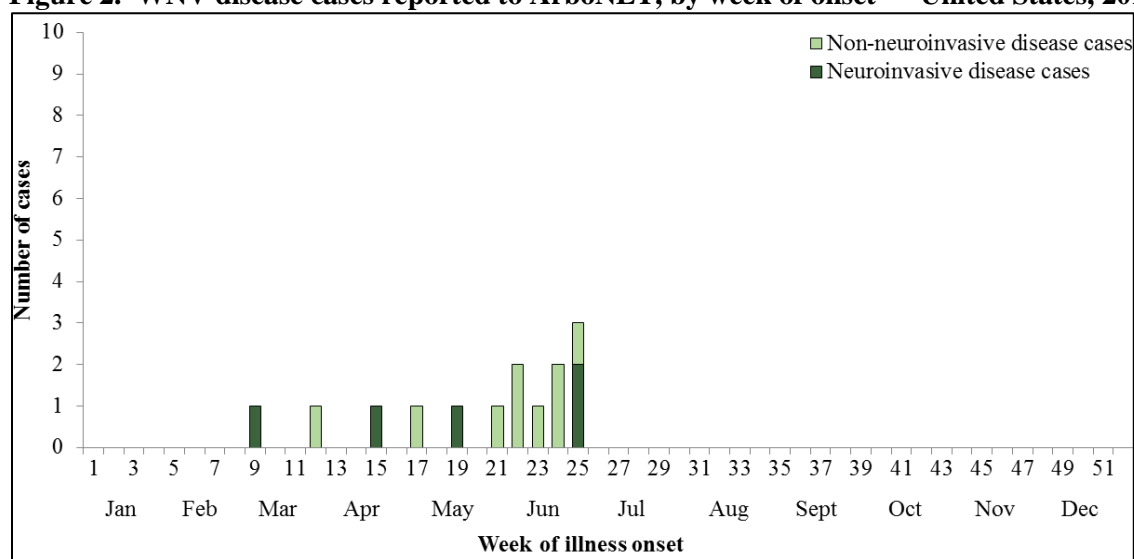
No WNV PVDs have been reported.

Table 1. West Nile virus infections in humans reported to ArboNET, 2013

| State | Human disease cases reported to CDC* | | | Deaths | Presumptive viremic blood donors |
|---------------|--------------------------------------|-------------------|-----------|----------|----------------------------------|
| | Neuroinvasive | Non-neuroinvasive | Total | | |
| California | 1 | 0 | 1 | 1 | 0 |
| Colorado | 0 | 1 | 1 | 0 | 0 |
| Mississippi | 1 | 5 | 6 | 1 | 0 |
| Nevada | 1 | 1 | 2 | 0 | 0 |
| South Dakota | 0 | 1 | 1 | 0 | 0 |
| Tennessee | 1 | 0 | 1 | 0 | 0 |
| Texas | 1 | 1 | 2 | 0 | 0 |
| Totals | 5 | 9 | 14 | 2 | 0 |

*Includes confirmed and probable cases.

Figure 2. WNV disease cases reported to ArboNET, by week of onset — United States, 2013



Eastern equine encephalitis virus (EEEV) activity in 2013

As of July 9th, two counties in one state (Florida) reported human cases of EEEV disease in 2013 [Figure 3 and Table 2]. Twenty additional counties in two states (Florida and Georgia) have reported EEEV activity in non-human species only.

Figure 3. Eastern equine encephalitis virus (EEEV) activity reported to ArboNET, by state — United States, 2013 (as of July 9, 2013)



*EEEV veterinary disease cases, or infections in mosquitoes, birds, or sentinel animals

Table 2. Eastern equine encephalitis virus human disease cases reported to ArboNET, United States, 2013*

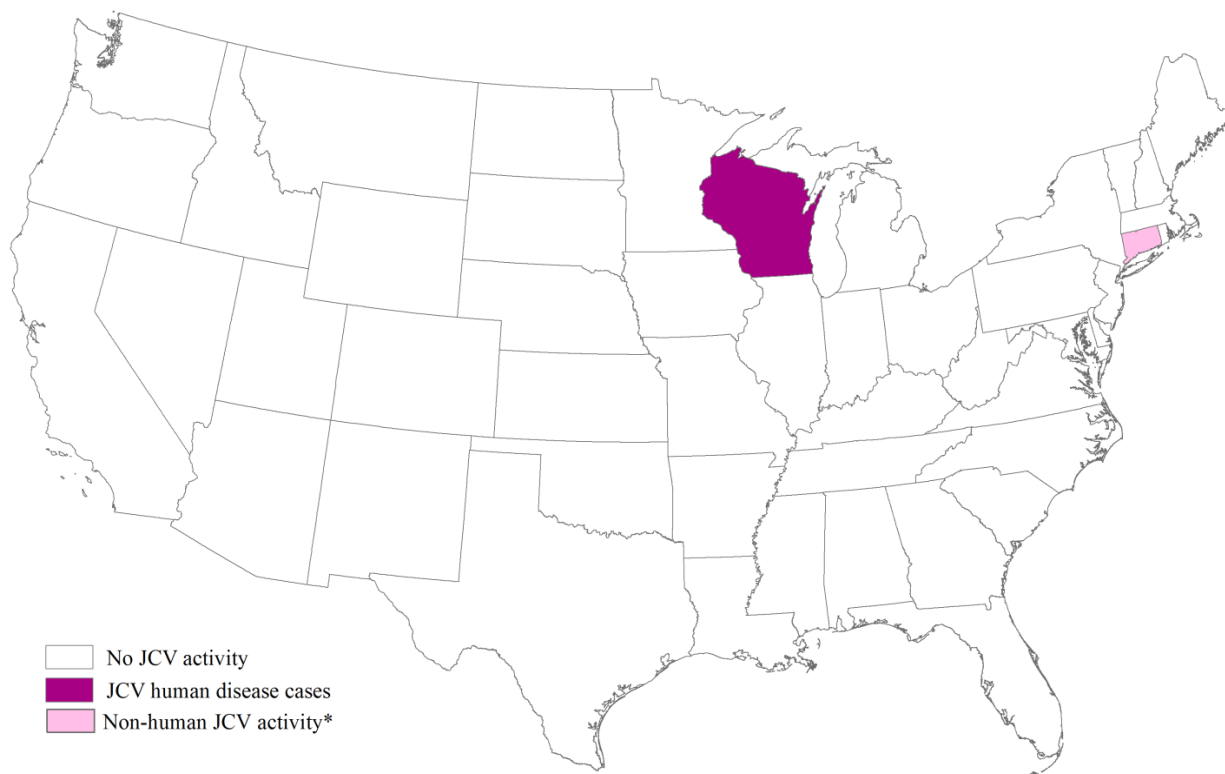
| State | Neuroinvasive | Non-neuroinvasive | Total cases | Deaths |
|---------------|---------------|-------------------|-------------|----------|
| Florida | 2 | 0 | 2 | 1 |
| Totals | 2 | 0 | 2 | 1 |

*Includes confirmed and probable cases.

Jamestown Canyon virus (JCV) activity in 2013

As of July 9th, one county in one state (Wisconsin) reported a human case of JCV disease in 2013 [Figure 4 and Table 3]. Four additional counties in Connecticut have reported JCV activity in non-human species only.

Figure 4. Jamestown Canyon virus (JCV) activity reported to ArboNET, by state — United States, 2013 (as of July 9, 2013)



*JCV veterinary disease cases, or infections in mosquitoes, birds, or sentinel animals

Table 3. Jamestown Canyon virus human disease cases reported to ArboNET, United States, 2013*

| State | Neuroinvasive | Non-neuroinvasive | Total cases | Deaths |
|---------------|---------------|-------------------|-------------|----------|
| Wisconsin | 0 | 1 | 1 | 0 |
| Totals | 0 | 1 | 1 | 0 |

*Includes confirmed and probable cases.

La Crosse encephalitis virus (LACV) activity in 2013

As of July 9th, one county in one state (West Virginia) reported LACV activity in non-human species to ArboNET for 2013 [Figure 5]. To date, no human cases of LACV disease have been reported.

Figure 5. La Crosse virus (LACV) activity reported to ArboNET, by state — United States, 2013 (as of July 9, 2013)



*LACV veterinary disease cases, or infections in mosquitoes, birds, or sentinel animals

Powassan virus (POWV) activity in 2013

As of July 9th, one county in one state (New York) reported a human case of POWV disease in 2013 [Figure 6 and Table 4].

Figure 6. Powassan virus (POWV) activity reported to ArboNET, by state — United States, 2013 (as of July 9, 2013)



*POWV veterinary disease cases, or infections in mosquitoes, birds, or sentinel animals

Table 4. Powassan virus human disease cases reported to ArboNET, United States, 2013*

| State | Neuroinvasive | Non-neuroinvasive | Total cases | Deaths |
|---------------|---------------|-------------------|-------------|----------|
| New York | 1 | 0 | 1 | 0 |
| Totals | 1 | 0 | 1 | 0 |

*Includes confirmed and probable cases.

St. Louis encephalitis virus (SLEV) activity in 2013

As of July 9th, two counties in one state (Florida) reported SLEV activity in non-human species to ArboNET for 2013 [Figure 7]. To date, no human cases of SLEV disease have been reported.

Figure 7. St. Louis encephalitis virus (SLEV) activity reported to ArboNET, by state — United States, 2013 (as of July 9, 2013)



*SLEV veterinary disease cases, or infections in mosquitoes, birds, or sentinel animals

Table 5. Characteristics of reported cases of arboviral disease, United States, 2013

| | WNV (N=14) | |
|-------------------------|---------------|------|
| | No. | (%) |
| Age group | | |
| <20 years | 2 | (14) |
| 20-39 years | 2 | (14) |
| 40-59 years | 7 | (50) |
| ≥60 years | 3 | (22) |
| Male sex | 9 | (64) |
| Onset of illness | | |
| January | 0 | (0) |
| February | 1 | (7) |
| March | 1 | (7) |
| April | 2 | (14) |
| May | 4 | (29) |
| June | 6 | (43) |
| July | 0 | (0) |
| Clinical syndrome | | |
| Non-neuroinvasive | 9 | (64) |
| Neuroinvasive | | |
| Encephalitis | 4 | (29) |
| Meningitis | 1 | (7) |
| Acute flaccid paralysis | 0 | (0) |
| Outcome | | |
| Hospitalization | 9 | (64) |
| Death | 2 | (14) |

WNV=West Nile virus

About ArboNET

ArboNET is a national arboviral surveillance system managed by CDC and state health departments. In addition to human disease, ArboNET maintains data on arboviral infections among presumptive viremic blood donors (PVDs), veterinary disease cases, mosquitoes, dead birds, and sentinel animals. As with other national surveillance data, ArboNET data has several limitations that should be considered in analysis, interpretation, and reporting [Box].

Box: Limitations of ArboNET data

The following should be considered in the analysis, interpretation, and reporting of ArboNET data:

1. ArboNET is a passive surveillance system. It is dependent on clinicians considering the diagnosis of an arboviral disease and obtaining the appropriate diagnostic test, and reporting of laboratory-confirmed cases to public health authorities. Diagnosis and reporting are incomplete, and the incidence of arboviral diseases is underestimated.
2. Reported neuroinvasive disease cases are considered the most accurate indicator of arboviral activity in humans because of the substantial associated morbidity. In contrast, reported cases of nonneuroinvasive arboviral disease are more likely to be affected by disease awareness and healthcare-seeking behavior in different communities and by the availability and specificity of laboratory tests performed. Surveillance data for nonneuroinvasive disease should be interpreted with caution and generally should not be used to make comparisons between geographic areas or over time.

Additional resources

For additional arboviral disease information and data, please visit the following websites:

- CDC's Division of Vector-Borne Diseases:
<http://www.cdc.gov/ncezid/dvbd/>
- National Notifiable Diseases Surveillance System:
<http://wwwn.cdc.gov/NNDSS/script/casedef.aspx?CondYrID=616&DatePub=1/1/2011%2012:00:00%20AM>
- U.S. Geological Survey (USGS):
<http://diseasemaps.usgs.gov/>
- AABB (American Association of Blood Banks):
www.aabb.org/programs/biovigilance/Pages/wnv.aspx